

PATENT

Serial No. 10/526,303

Amendment in Reply to Office Action of January 28, 2008

OK TO ENTER: /AN/

IN THE SPECIFICATION

Please amend the specification as follows:

Replace the paragraph on page 1, between lines 6-14 of the specification with the following:

The total data capacity of optical discs is determined by the radial and tangential data density. The radial density is determined by the data track pitch, the tangential data capacity by the shortest mark that can be written. For rewritable phase-change discs, re-crystallization at the trailing edge of a mark during writing of the next mark is used to obtain a mark of shorter length than the optical spot size. Typically, half of the mark is erased to end up with a crescent shaped mark. For the recently introduced Blu-ray Disc (BD), a total data capacity of 25 Gbyte can be recorded on a single recording layer of a 12 cm disc. The shortest length is 150 nm ($d=1$ code) while the optical spot is 300 nm in width ($1/e-1/2$ radius of the optical spot is 150 nm).

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Replace the paragraph on page 2, between lines 4-6 of the specification with the following:

This object is achieved according to the present invention by a recordable optical record carrier ~~as claimed in claim 1~~ which is characterized in that the groove structure comprises a main groove divided into two neighboring sub-grooves separated by a barrier.

Replace the paragraph on page 2, between lines 17-22 of the specification with the following:

~~Preferred embodiments of the invention are defined in the dependant claims.~~ The barrier is preferably made of the substrate material which allows mastering of the groove structure by a simple process, such as electron-beam mastering, lithography patterning and subsequent etching. Also between neighboring groove structures a groove separation barrier is provided separating neighboring tracks from each other. Also that groove separating barrier is preferably made of substrate material.

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Replace the paragraph on page 3, between lines 8-11 of the specification with the following:

~~A preferred groove shape is defined in claim 6 according to which the width of the sub-grooves in the radial direction~~
increases in the direction facing away from the substrate layer.
Thus, a groove structure has essentially the shape of a "W", having for instance flank angles between 10 or 90°, preferably substantially 45°.